A CONTAINER FOR GOODS

The present invention relates to a container for goods and more particularly to a container for goods which is adaptable to protect sensitive goods carried therein.

Containers of all shapes and sizes are used to store and transport goods from one geographical location to another. Some goods are of a robust nature and do not require any special attention during storage and transportation. There are, however, a substantial amount of goods transported that are of a frangible nature. These goods are transported in a variety of containers from large industrial shipping containers by transport companies to individual camcorder protection covers carried by individuals. Inevitably, some of the fragile goods stored and transported in this way end up damaged or broken and generate problems for the owners, insurers and manufacturers of fragile goods each year.

Containers for goods such as luggage which is collected, transported and loaded by means of a baggage handling system, particularly by systems of the type commonly used in airports, will inevitably encounter a lot of impact forces due to the weight of other luggage falling onto it or being placed on top of it by baggage handlers. Baggage handlers, whilst being as cautious as possible not to handle any luggage roughly, are under pressure to load and unload a substantial amount of luggage from tightly scheduled arriving and departing flights. It is therefore inevitable that a certain percentage of the overall luggage will be exposed to relatively rough treatment and fragile articles contained therein will be damaged or ultimately broken. These problems are not restricted to large baggage handling systems which are predominantly used in airports but are also encountered by passengers of trains and coaches who generally have their luggage stored in a central storage area on the vehicle.

In an effort to overcome these problems, items of luggage having rigid sides similar to old style trunks have been developed and provide an excellent alternative to the more traditional soft-sided luggage. However, luggage having rigid sides is generally bulky and awkward to carry and adds weight to the overall article of luggage. Furthermore, if the rigid sided luggage is not fully packed, the incorporated goods are free to tumble around

inside due to the unused space in the article of luggage. It is also unsuitable to be carried over the shoulder or by handles. Travellers or backpackers carrying fragile equipment such as computers, telephones, cameras or camcorders require the protection that rigid sided luggage would provide for their equipment, but it is often impracticable and uncomfortable especially in circumstances where the travellers are constantly on the move or are encountering rough terrain. Soft sided luggage is lighter and easier to carry and thus more suitable however, it is unable to adequately protect its contents from the rough handling that such situations presents and sensitive goods are often damaged due to the lack of protection provided by soft sided luggage.

There is therefore a need for an item of luggage which is light and easy to carry but which also provides adequate protection for its contents.

A variety of luggage articles have been developed in the prior art in an attempt to provide protection for the contents of an item of luggage. For example, inflatable air inserts have been provided in U.S. Patent No. 4,569,082 – Ainsworth K. L., U.S. Pat. No. 4,215,778 – Kovins M., U.S. Pat. No. 4,164,970 – Jordan C.P., U.S. Pat. No. 4,155,453 – Ono D., U.S. Pat. No. 4,044,867 – Fisher R. J., U.S. Pat. No.3,587,794 – Mattel H. and U.S. Pat. No. 1,927,471 – Salomon I. J. All of these inventions depend on positive pressure being added to the inflatable insert before protection is provided for the contents stored therein. Additionally, the protection afforded by the insert is rendered useless if the insert is punctured or pierced.

There is still clearly a need for a more robust protection means for goods stored in containers.

Accordingly, there is provided a container for goods comprising a storage compartment having an outer member, a flexible inner lining and an adjustable protection means mounted between the outer member and the lining to protect articles in the storage compartment, wherein the protection means has two modes, a protection mode and a storage mode and is adjustable between the two modes.

Preferably, the outer member is a flexible member. This arrangement is particularly useful when the container for goods is to be carried by an individual.

Ideally, the outer member is a rigid member. This arrangement is particularly useful for large shipping containers and other containers for goods which require a robust external surface.

Preferably, the adjustable protection means is provided by an inflatable insert.

Ideally, the inflatable insert provides a protective layer in both the storage mode and the protection mode. The provision of a protective layer in the storage mode is an advantage of this invention over all the inserts provided in the prior art.

Preferably, the inflatable insert is self-inflatable.

Ideally, the inflatable insert is shock absorbent. This greatly reduces the risk of damage to goods stored within a container as the insert absorbs the forces transmitted thereto as opposed to passing them on to the contents of the container.

Preferably, the form of the inflatable insert determines the maximum and minimum capacity of the storage compartment. The insert can be inflated partially, fully or not at all in order to safely house the stored contents.

Ideally, the inflatable insert is provided by a one-piece unit. This unitary characteristic of the insert reduces the complexity of the overall container and reduces the cost of manufacture of the insert itself.

Preferably, the one-piece insert has one internal cavity. The single internal cavity allows for ease of manufacture of the insert.

Ideally, the inflatable insert comprises a foam pad insert incorporating an air valve, the foam pad insert being self-inflatable when the valve is opened. The foam can be deflated

by opening the control valve and applying pressure to the foam and then closing the valve when all the air is expelled. The insert adds negligible extra weight to the overall item of luggage. Advantageously, the foam pad insert provides a layer of protection to fragile goods stored therein when the protection means is in storage mode.

Preferably, the foam pad insert is self-inflatable when the insert is pierced or punctured. This non-destructible feature of the insert is particularly advantageous when compared with inflatable inserts operating on pumped air as a protection means. Products which use inflatable air inserts are rendered useless if the inflatable air insert is punctured or pierced.

Ideally, the foam has a memory which restores the foam to its original form when an operator opens the valve after a period of deflation or when the insert is pierced or punctured.

The insert is inflatable or deflatable by a pump or orally by a user blowing air into the insert through a valve and provides protection for articles stored in the luggage by absorbing any impact due to rough handling.

Preferably, the insert is inflatable or deflatable using a pump which is attached to the valve and is operated either manually, electrically or by other non-manual actuation means.

Ideally, the insert is also deflatable using the valve. In the self-inflatable insert, the pump can be used to increase the pressure.

Preferably, the inflatable insert provides a protective layer at normal atmospheric pressure.

In the most preferred embodiment, the container for goods is an item of luggage.

In a particularly preferred embodiment, the pump is incorporated into a shoulder strap of the item of luggage. A user can increase or decrease the pressure of the insert when carrying the luggage in their hand or over their shoulder by operating the pump or valve.
In a preferred embodiment, the storage compartment comprises a central body and two side

panels. This form of construction allows the outer skin of the luggage to be produced from three pieces of material.

In a particularly preferred embodiment, side compartments are provided incorporating attachment means for inter-engagement with a corresponding attachment means located on each side of the outer member of the item of luggage.

Preferably, the attachment means are provided by strips of hook and loop material allowing the side compartments to be temporarily attached to the item of luggage.

In another embodiment, the attachment means are provided by attachment loops.

Ideally, the adjustable protection means comprises a central body insert and two side inserts. This allows standard shapes of inserts to be placed between the outer skin and the lining of the storage compartment.

Preferably, a pair of lifting handles is located on the outer skin of the luggage. The handles are disposed on opposite sides of the item of luggage so that the weight of the item of luggage and its contents are evenly balanced between the handles making the item of luggage easier to carry.

Preferably, the item of luggage has a zip fastener for accessing the storage compartment and the control valve and a flap is located on the outer member of the luggage covering the zip fastener. The flap acts as a deterrent to anyone attempting to interfere with the contents of the item of luggage and furthermore prevents anyone from accidentally or otherwise inflating or deflating the adjustable protection means.

Preferably, the flap is fitted with a lock. The lock is an additional safety feature provided with the item of luggage, and prevents anyone from stealing or interfering with the contents of the luggage when it is unattended by its owner.

Ideally, the container for goods is a suit carrier comprising a cover sheet, a flexible inner lining and an inflatable insert formed for insertion between said cover sheet and said lining

whereby in use the inflatable insert prevents excessive creasing of a suit when it is rolled up inside the suit carrier. The inflatable insert allows a user to roll the suit carrier into a compact bundle that may be placed inside the item of luggage for storing and transporting.

In one embodiment, the container for goods is a shipping container comprising a rigid outer member, a flexible inner lining and an inflatable foam pad insert mounted between said rigid outer member and said lining whereby in use the insert prevents excessive movement of the fragile goods within the container and additionally prevents potentially harmful contact between the goods and the side walls of the container.

In another embodiment, the container for goods is a case for technical equipment such as a telephone, palmtop or a laptop computer comprising an outer member, a flexible inner lining and an inflatable foam pad insert mounted between said outer member and said lining whereby in use the insert reduces the risk of damage to the laptop computer or other technical equipment. Laptop computers are an expensive item and may contain a substantial amount of useful information so it is vital that they are afforded as much protection as possible.

In a still further embodiment, the container for goods is a case for a musical instrument such as a keyboard, a guitar or any musical instrument comprising an outer member, a flexible inner lining and an inflatable foam pad insert mounted between said outer member and said lining whereby in use the insert reduces the risk of damage to the musical instrument.

In yet another embodiment, the container for goods is a case for optical equipment such as a camera or camcorder comprising an outer member, a flexible inner lining and an inflatable foam pad insert mounted between said outer member and said lining whereby in use the insert reduces the risk of damage to the optical equipment.

The invention will hereinafter be more particularly described with reference to the accompanying drawings which show by way of example only, six embodiments of a container for goods according to the invention.

Figure 1 is a perspective view of an item of luggage in an open position;

Figure 2 is a perspective view of an item of luggage incorporating a flap in a closed position;

Figure 3 is a partial perspective detail view of a valve of the inflatable insert;

Figure 4 is a section view through the item of luggage showing the insert in a deflated mode;

Figure 5 is a section view through the item of luggage showing the insert in an inflated mode;

Figure 6 is a section view through the item of luggage showing the insert in an inflated mode surrounding fragile goods;

Figure 7 is a section view through a suit carrier;

Figure 8 is a section view of the suit carrier of Figure 7 in a partially folded position;

Figure 9 is a cut-away elevation view of a suit carrier incorporating an inflatable insert;

Figure 10 is a cut-away perspective view of a shipping container incorporating an inflatable insert;

Figure 11 is a cut-away perspective view of a container for a laptop computer incorporating an inflatable insert;

Figure 12 is a cut-away perspective view of a container for a guitar incorporating an inflatable insert; and

Figure 13 is a cut-away perspective view of a container for a camera incorporating an inflatable insert;

Referring to the drawings and initially to Figures 1 to 6 there is shown an item of luggage indicated generally by the reference numeral 1. The item of luggage 1 has a storage compartment 4 having an outer member 7, a flexible inner lining 10 and an adjustable protection means. The adjustable protection means is provided by an inflatable insert 11 mounted between the outer member 7 and the flexible inner lining 10. The insert 11 is provided more specifically by a foam pad insert. The insert 11 has a control valve 9. A number of loops 3 are provided on opposite sides of the outer member 7 of the item of luggage 1 for attaching a shoulder strap. A pair of lifting handles 2 are also located on the outer skin 7 of the item of luggage 1. A flap 15 secured by fasteners 14 cover a zip fastener 6 and the control valve 9.

Referring to the drawings and more particularly to Figures 1 and 2, the storage compartment 4 comprises a central body 12 and additional side compartments (not shown). Side compartments can be attached to the item of luggage 1 about a number of attachment loops 13 located on the sides of the luggage 1. The main storage compartment 4 and the side compartments each has a zip fastener 6 (see Figure 3) attached which allows access to the compartments. The flexible inner lining 10 also provides a seal 15 to allow a user access to a further internal storage pocket.

Referring now to Figures 4 to 6, there is shown a foam pad insert 11 in the deflated storage mode (see Figure 4), the inflated protection mode (see Figure 5) and the inflated protection mode having goods 16 stored therein (see Figure 6).

Referring now to Figures 7, 8 and 9 a suit carrier indicated generally by the reference numeral 21 is shown comprising a cover 22 and an inflatable foam insert 23. The cover 22 has a front sheet 24, a rear sheet 25 and a zip fastener 27. A suit occupies the space between the front sheet 24 of the cover 22 and the foam insert 23. A flexible inner lining (not shown) is provided to enclose the insert 23 between the lining and the rear sheet 25. A user can then roll the suit carrier 21 housing the suit into a compact package for storing and

transporting inside the item of luggage 1. The foam insert 23 prevents the suit from becoming excessively creased while it is rolled up inside the suit carrier 21.

Referring to the drawings and now to Figure 10, there is shown a shipping container indicated generally by the reference numeral 101. The container 101 has a rigid outer shell 102, an inflatable foam insert 103 and a flexible inner lining 104. A large quantity of goods 105 are stored in the container 101. Referring now to Figures 11 to 13 there is shown a container 111 for a laptop computer 112, a container 113 for a guitar 114 and a container 115 for a camera 116. The containers all incorporate an inflatable foam insert 103.

In use articles are placed into the main compartment 4 of the container 1, 101, 111, 113 and 115 through an opening such as the opened zip fastener 6. Next the zip fastener 6 is partially closed and the inserts 11, 103 are inflated by opening the control valve 9 or using a pump (not shown) attached to the control valve 9. The inflatable inserts 11, 103 fill the empty space within the container 1, 101, 111, 113 and 115. When the inflation is complete the contents are securely retained in place thereby preventing unwanted movement within the container 1, 101, 111, 113 and 115 which could lead to damage of the contents. The inflated inserts 11, 103 also provide cushioning which will reduce the likelihood of damage due to rough handling of the container 1, 101, 111, 113 and 115. Articles can be removed from the container 1, 101, 111, 113 and 115 without having to deflate the inserts 11, 103. When a user wishes to deflate the inserts 11, 103 the control valve 9 is released which in turn deflates the inserts 11, 103. Where the inserts 11, 103 are provided by foam pads a user may apply pressure to the inserts 11, 103 to deflate them.

The container for goods provides a user with both a soft-sided container for carrying durable items and a rigid sided container for carrying fragile goods by means of an integral adjustable protection means. The protection means is adjustable subject to a users requirements and beneficially, adds negligible weight to the overall item of luggage.

It is to be understood that the invention is not limited to the specific details described above, which are given by way of example only, and that various modifications and alterations are possible without departing from the scope of the invention as defined in the appended claims.